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SAFE 4 MARKET

A PRIMARY PRODUCERS, PROCESSORS AND STORAGE FACILITY'S GUIDE TO QUALITY AND FOOD SAFETY

Supporting access to new markets by enhancing food safety knowledge and skills of agriculture producers and agri-food or beverage processors in Nova Scotia through skills development and education.

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INTRODUCTION

WHETHER YOU'RE A PRIMARY PRODUCER, PROCESSOR OR STORAGE OPERATOR, YOU WILL NEED TO IMPLEMENT PREREQUISITE PROGRAMS TO MAINTAIN THE QUALITY AND SAFETY OF YOUR PRODUCT.

More and more, customers, retailers and regulatory bodies are requiring food and beverage operations to give guarantees that the food that is grown, processed and/or stored is safe for consumption and a good quality product. This can feel overwhelming to small and large farms and facilities alike.

This guide is geared towards small and medium-sized Nova Scotian businesses that are producing products and selling either at the door, farm markets or to retail establishments. However, larger operations can use this guide to assess their current quality and food safety program to ensure it meets all requirements.

Whether you're a primary producer, processor or storage operator, you will need to implement prerequisite programs to maintain the quality and safety of your product. This guide is aimed to help operations begin to implement or strengthen their current quality and food safety programs by providing general good manufacturing practices and focusing on key differences between the type of operations seen locally (i.e. primary producers, processors, storage facilities). Focusing on these different operations helps strengthen quality and safety from farm to fork. Operations are encouraged to participate in Perennia's Food Safety Fundamentals courses offered online for a more in-depth look into prerequisite programs and HACCP plans. As always, if you have questions feel free to contact our Quality and Food Safety Specialists, we are here to help.

Perennia's Quality and Food Safety Team
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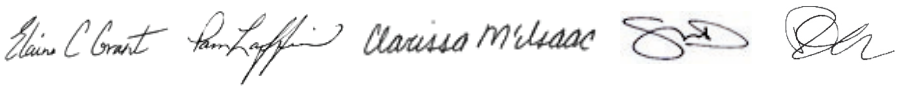

IMPORTANCE OF A FOOD SAFETY PROGRAM

It is estimated that approximately 4 million (1 in 8) Canadians are affected by a food-borne illness annually. Of these 4 million, 11,600 will be hospitalized and 238 will die. Food-borne bacteria, parasites and viruses are the main culprits in food-borne illnesses. Most people will not experience life-threatening symptoms from a food-borne illness, however, there are populations that are more susceptible. These include infants and young children, pregnant women, the elderly, and those with weakened immune systems (e.g. people with diabetes, liver or kidney disease, alcoholism, etc.).

Providing high quality and safe food to protect consumers against food-borne illness is the most crucial reason to implement a food safety program, not to mention it is the law. However, a food safety program does come with additional benefits. A food safety program will not only help you meet consumer expectations and gain a loyal customer following, it will also help you gain access to new markets. As a result of a properly developed and maintained food safety program, you will experience reduced customer complaints, recalls, rework, waste and legal liability – all of which are costly ordeals. A food safety program equals due diligence and protects your brand.

Although consumers are responsible for handling their food with care (e.g. proper storage temperatures, avoiding cross-contamination, etc.), the assurance that a food product will not cause harm to a consumer largely remains the responsibility of those producing, processing, manufacturing, storing and transporting the food. This guide will help primary producers, processors and storage facilities implement and/or strengthen their food safety program to contribute to safe food for consumers.

FOOD SAFETY HAZARDS

The biggest safety concerns with food production and processing are biological, chemical and physical hazards. Biological hazards include bacteria, viruses, parasites or fungi (yeast and molds) that can cause food-borne illness if they or their toxins are ingested.

Biological hazards can be found anywhere that conditions favour their growth. Such conditions include temperature, humidity, pH, water activity and oxygen availability. Bacteria can be found in soil, mud, air (i.e. aerosols or dust suspended in air), water, decaying matter, fecal matter, sewage, the gut of warm-blooded animals and even in our nose and mouth and on our skin. Fungi are typically found in warm and humid environments.

Chemical hazards can fall into three broad categories; naturally occurring toxins and allergens (e.g. shellfish toxins and mycotoxins); chemicals intentionally added to food (e.g. preservatives and additives); chemicals unintentionally added to food (e.g. pesticides, chemicals from packaging material, chemicals used for cleaning or maintenance and veterinary chemicals such as antibiotics). Chemicals that are intentionally added to food are not intended to be hazardous, however higher than desired amounts may render them harmful to human health.

A **physical hazard** is any extraneous or foreign material or object that can cause injury or illness to a consumer such as (but not limited to) glass, plastic, metal, wood, animal droppings or insects.

PREREQUISITE PROGRAMS

Prerequisite Program implementation is a means of being proactive in managing the quality and safety of food products. Prerequisites are essentially good manufacturing practices and the foundation of the HACCP plan. They must be sufficient and effective. As part of the prerequisite program, steps and procedures are developed to control operational conditions in the facility that will help create an environment for safe food production. These steps and procedures will be documented as standard operating procedures (SOPs). Employees performing these tasks must be trained to carry them out properly and understand what is expected to maintain food quality and safety.

Detailed SOPs are great, however, they will not be truly effective if they are not followed. This is where records of monitoring and deviation procedures become important. These documents offer proof that the SOPs are being followed. When creating records remember to capture the information needed and to combine records where it makes sense. If the records are cumbersome or do not make sense then employees are less likely to fill them out or fill them out correctly. Records must be kept up-to-date, legible, accurate and properly filled. Records must be filled out in real time and should not be recorded on a scrap of paper with the intent to be rewritten as they may become illegible or lost.

This section will focus on the prerequisite programs listed below. Basic good manufacturing practices will be discussed and there will be a focus on key differences that arise between different operations.

- Premises
- Transportation, Purchasing/Receiving/Shipping and Storage
- Equipment
- Personnel
- Sanitation
- Pest Control
- Recall and Traceability
- Allergens and Food Additives

SAFE FOOD FOR CANADIAN REGULATIONS (SFCR)

The SFCR come into effect on January 15, 2019. Please note that the above prerequisite programs are a requirement as part of a preventive control plan under the SFCR. Check out Perennia's website (link in Resources) for a fact sheet containing more information and guidance on the SFCR.

PREMISES

The premises, or environment, at a food facility, can have a great impact on the safety of the product. Premises include both the external and internal environment. The external environment can have an impact on food safety as things like dust and pollutants can enter the facility via doorways, windows and air intakes. A poorly maintained exterior can attract pests to the premises and provide harbourage areas. Internal premises includes building structure, design and condition, equipment layout, product/employee flow, ventilation, temperature, lighting, water and sewage systems; all of which can pose risks to the product if not constructed properly and well maintained.

Acceptable building materials are included in the CFIA Reference Listing of Accepted Construction Materials, Packaging Materials and Non-Food Chemical Products. The CFIA no longer updates this database. If a building material is not on the list, it is your responsibility to request proof from the supplier that the material is suitable for use in a food processing facility.

A few basic premise considerations applicable to **all** operations include the following:

EXTERNAL ENVIRONMENT – EXTERNAL SURROUNDINGS

- Located away from or protected against potential sources of contamination (landfills, polluted areas, floodplains, etc.)
- Vegetation is controlled and not growing directly against the building
- No litter, old pallets, equipment, etc. outside against the building
- Adequate drainage near facility (i.e. no pooling water)

EXTERNAL ENVIRONMENT – BUILDING EXTERIOR

- No holes or cracks in walls, foundation and roof
- Air intakes are screened and filtered; windows are screened
- Doors are self-closing and close fitting (i.e. no gaps or light visible when closed)

INTERNAL ENVIRONMENT – BUILDING INTERIOR

- Floors, walls, ceilings, windows and doors are cleanable, constructed of appropriate materials and designed to allow maintenance, cleaning and sanitizing activities
- Sewage and waste effluent systems do not pass directly over or through production
- Sewage and other effluent systems must not be interconnected (e.g. not connected to floor drains or sinks)
- Regulate the flow of employees from the entry point of the premises to the final product to prevent cross-contamination and secure access to the establishment
- Adequate lighting is provided and lighting is shatterproof or protected from breakage
- Appropriate facilities and materials for waste and inedible food disposal are provided and maintained
- Ventilation provides sufficient air exchange to prevent accumulation of steam, condensation and dust, to remove contaminated air and to maintain pressure in high-risk areas

PERSONNEL FACILITIES

- An adequate number of hand wash stations are provided at all production area entrances and throughout the production area
- A separate lunchroom area is provided for staff to prepare and eat food
- An area is provided for employees to change clothes and store personal items that is separate from the production area
- Personnel facilities are readily accessible, maintained, and adequately equipped with potable water for handwashing, soap, single-use paper towel, waste receptacle and sanitizer

SPECIAL CONSIDERATIONS FOR PRIMARY PRODUCERS

- Are fields adjacent to non-agricultural activities or where there is a high level of migratory bird or animal activity or areas prone to flooding? You will need to have preventive plans (air filters, buffer zones, fences, etc.) in place to prevent contamination from neighbouring activities and exercise caution when harvesting to avoid crop becoming contaminated.
- Applying and choosing soil amendments:
  - » Sewage sludge must never be used on fields
  - » Manure must be applied no later than 121 days before harvest
  - » Compost must be properly managed
  - » Knowledge of soil amendment sources (e.g. what they contain, how they were handled)
  - » Soil amendments must be properly stored
- Washrooms must be supplied close to the field site (not directly on the field or bordering on a field) and at the packing/production building. Gas station or local restaurant restrooms are not a means of supplying adequate handwashing or washroom facilities.
- Lunchroom and break areas must be available. All work effects (e.g. knives, trimmers, gloves, etc.) should be left in the production area or field. This prevents them from being in contact with allergens or other contaminants. Employees can eat their lunches in their cars or outside as long as garbage is controlled and hands are washed prior to returning to the field or packing building.
- An adequate number of handwashing stations with adequate resources should be available either on site or in a building in close proximity to the field.
  In the Field: A handwashing area can be set up away from the field, or at the very least hand wipes (such as unscented baby wipes, NOT Lysol or Clorox wipes), hand sanitizer, signage with directions and a covered garbage container can be supplied. These must be independent of any portable toilets in place.
- Areas where animals are kept must be separate from and do not open directly into food processing or packaging areas.

WATER

Water is used in food processing facilities as an ingredient, part of the process (chilling, rinsing), sanitation, and personnel hygiene (hand washing). Therefore, water quality can greatly impact the safety of the product. A safe, adequate supply is critical. In addition to being potable, it is important to have adequate volume, temperature and pressure depending on what the water is being used for. If processes require the use of ice or steam in direct contact with the product or equipment, it must be included in your premises prerequisite program and subject to the same requirements as water.

To ensure the safety of water, water sources must be tested. It is recommended that municipal water sources are tested for microbiology semi-annually whereas, water sources, such as dug wells, are tested monthly. Water results must meet the Guidelines for Canadian Drinking Water Quality (the Guidelines) for total coliforms and E. coli. The Guidelines state, for both: none detectable per 100 mL.

The quality of the water should also be assessed depending on the use. For example, detailed chemical analysis tests should be done for water used as a product ingredient on a regular basis to ensure the water meets the Guidelines for chemical and physical parameters (e.g. mineral content). If water is not used as an ingredient, quality tests may be less frequent (annual) with quality observations (e.g. color, turbidity, odor, etc.) conducted on a regular basis.

BASIC STEPS TO FOLLOW WHEN COLLECTING A WATER SAMPLE *

- Use a sterile container obtained from the lab. Do not open until ready to collect the sample.
- Wash your hands and wear gloves when collecting the sample to prevent contamination.
- Remove any screens, hoses, nozzles, etc.
- Clean the inside and outside of the tap opening with rubbing alcohol.
- Open tap fully and allow the water to run for 3-5 minutes before collecting the sample.
- Reduce flow when collecting the sample to prevent splashing.
- Maintain sterility of container when collecting sample: Hold the sample container at the base, remove the sample container cap with your free hand, taking care not to touch the edge or allow water to flow over it into the container – do not lay it down! Do not touch inside of sample container with your hand or the tap.
- Leave a little air space in the container to allow for mixing.
- Take samples to the lab immediately. Place in a cooler with ice for transport. If delivery is delayed, store sample in a fridge. A new sample will need to be collected (in a new container) if the stored sample cannot be delivered to the lab within 24 hours of collection.

**** Follow the instructions as directed by your testing lab.***

There are a number of actions to take when the test results do not meet the requirements. If the water is not used as an ingredient, or for handwashing, washing food equipment/utensils or directly on the product, operations may continue using an alternate source of potable water but all use of facility water should cease immediately. Facilities must have deviation/corrective actions in place and fill out a report. A series of testing must be completed to determine the source of contamination and the municipality must be notified if the tests indicate the source of contamination is the municipal supply.

WATER TREATMENT

Water treatment may be required to make water potable. A common chemical water treatment is chlorination. There are special considerations when using chlorination to treat water, such as the concentration. Some physical water treatment methods include ultraviolet (UV), ozonation, activated carbon contractors, filters and reverse osmosis. Water treatment records must include the method of treatment, sample site, analytical results, date and the analyst. It is essential that backflow preventers are in place to prevent contamination of the water source.

SPECIAL CONSIDERATIONS FOR PRIMARY PRODUCERS

- Water storages that are used for collecting and holding water must be cleaned prior to first use that season and after each use, prior to refilling.
- Assess water sources used for agricultural purposes such as irrigation to ensure they do not pose hazards to crops.

PREMISES
CHECKLIST

PREMISES CHECKLIST

EXTERNAL SURROUNDINGS AND BUILDING EXTERIOR	YES	NO	N/A
Is there a risk of contamination from neighbours?			
Are driveways paved or well-maintained to prevent excess dust and mud?			
Is all vegetation controlled and not growing against or next to the building?			
Is there pooling of water?			
Are there any old pallets, equipment or litter against the building?			
Is the building exterior maintained in good repair (e.g. no holes or cracks in walls, foundation and roof, windows/air filters are screened, pipes are sealed, etc.)?			
Is access secure? Doors are self-closing, close fitting and lockable?			
Are soil amendment processes, storage and sources safe/approved?			

BUILDING INTERIOR	YES	NO	N/A
Are floors, walls, ceilings, windows and doors cleanable, constructed of appropriate materials, and maintained?			
Are wall, floor and ceiling junctions sealed and coved if possible?			
Are exposed pipes, ducts and beams located far enough away from walls/ceilings for cleaning access?			
Are stairs/catwalks constructed of the appropriate materials and do not pose a risk to products?			
Is there adequate lighting and is the lighting protected from breakage?			
Are windows made from shatterproof glass or protected from breakage?			
Is there pooling of water? Are floors sloped to allow for drainage?			
Are there appropriate facilities for garbage and waste?			
Is there adequate ventilation (e.g. any signs of condensation)?			
Are hoses hung up after use and is the nozzle kept off the floor?			

PREMISES CHECKLIST

PERSONNEL FACILITIES	YES	NO	N/A
Are there an adequate number of handwashing stations provided?			
Do handwashing stations have an adequate supply of potable warm water, soap, paper towels, sanitizers, garbage, handwashing signs? Or if in the field, a supply of hand wipes, sanitizer, garbage and signage?			
Is there a separate lunch/break area for staff to prepare and eat food?			
Is there a separate washroom/ changing area?			
Are there an adequate number of washrooms provided?			

WATER	YES	NO	N/A
Is there an adequate supply of potable water for processing, sanitation, personnel hygiene, agricultural purpose (i.e. irrigation) and as an ingredient?			
Are water testing records maintained?			
Is there prevention of back-flow where required?			
Are water storage facilities designed, constructed and maintained to prevent contamination and tampering of water supply?			

PREREQUISITE PROGRAMS

PURCHASING/RECEIVING/SHIPPING, STORAGE & TRANSPORTATION

Below are general best practices to follow to ensure incoming materials do not become a source of contamination and that outgoing product is not contaminated during shipping, storage and transportation.

PURCHASING

When purchasing ingredients and raw materials, ensure that they are from known, approved suppliers/sources and that required information, such as specifications, letters of guarantee and/or certificates of analysis are on file. An approved supplier program is highly recommended as this helps to ensure that only those preapproved incoming ingredients, packaging or chemicals are received prior to coming in contact with or as a component of your product and do not pose a source of contamination. This includes purchasing food grade gases such as nitrogen, carbon dioxide and oxygen for modified atmosphere packaging.

RECEIVING

When receiving incoming materials, inspect the incoming trailer or vehicle for any sources of contamination. Inspect for cleanliness, good physical conditions and any incompatible products (e.g. non-food chemicals, animals, materials with a strong odor). Combined loads are common for small shipments, however, other materials on the vehicle must be compatible. Also, be sure if the purchase is temperature sensitive, that the temperature of the transport vehicle was maintained at an appropriate temperature. Check the temperature of the product and check for any evidence of contamination, spoilage, damage, foreign material or off-odours. Also, check expiry dates on incoming product to ensure that components are not expired or expiring soon after receipt. Ensure offloading occurs in a timely manner and in an appropriate area (i.e. not in a parking lot) which avoids holding material at temperatures (or other conditions e.g. rain) that may cause it to deteriorate. Ensure that packaging materials are clean, intact and do not pose a source of contamination.

SHIPPING

Product to be shipped should remain at proper storage temperatures until ready to load and should be neatly stacked and securely wrapped. Material should not be placed directly on the transport vehicle floor. Temperature requirements must be maintained during shipping. It is recommended to check the trailer for temperature, cleanliness and physical conditions before loading. For both receiving and shipping, the vehicle must meet certain requirements such as cleanliness, physical conditions, temperature and it should not be carrying any hazardous materials. Loading and unloading should be done in a manner to avoid contamination of the product.

STORAGE

Raw materials, ingredients, packaging and finished product should be protected from cross contamination and damage during storage. They must be stored off the floor and away from the walls to allow for proper cleaning and pest control. Practice FIFO (first in, first out) stock rotation to ensure older product, or product that will expire first, is used first. Conveyances and equipment must be stored in clean locations away from employee traffic and food production areas. Be sure to monitor the temperature in storage areas to keep product safe and in good quality. Note that non-food chemicals must be transported, received and stored separately. They must be stored in a clean, correctly labeled container in a well-ventilated area where there is no possibility of cross-contamination with the food product. Access to these chemicals should be limited; they should only be handled by authorized personnel and those who have received proper training.

SPECIAL CONSIDERATIONS FOR PRIMARY PRODUCERS

- In the field, produce should be transported in a covered vehicle to prevent bird droppings and large amounts of dust from coming in contact with the product.
- Agricultural chemicals must be stored separately from seeds, transplants, row covers, harvested and market-ready product and packaging.
- Production site equipment must be stored separate from packaging, product and harvest containers as fuel, gas, fumes, oil and non-food grade lubricants can leak and pose a source of contamination to these items.

SPECIAL CONSIDERATIONS FOR STORAGE FACILITIES

REPACK AND RETURNED PRODUCT STORAGE

- Personnel responsible for handling repack product must be properly trained to prevent contamination and damage of the product and materials.
- All repack material must be logged with the date of receipt and lot number.
- All returned or suspect food, product and material shall be subject to holding procedures that are documented and implemented.
- All held items shall be identified with a label, assessed, disposed of, or put back into the circulation of the management system.
- Held items shall be adequately segregated from good materials to avoid accidental use. This may include the use of a designated area or control through inventory management systems in such a way to prevent its use.

PURCHASING RECEIVING SHIPPING, STORAGE & TRANSPORTATION

CHECKLIST

PURCHASING/RECEIVING/SHIPPING, STORAGE & TRANSPORTATION CHECKLIST

	YES	NO	N/A
Are ingredients and raw materials purchased from an approved supplier/source?			
Are incoming ingredients and raw materials inspected upon receiving?			
Are the carriers inspected for cleanliness, good physical condition, temperature and any incompatible product/hazardous material upon receiving and before shipping?			
Are incoming ingredients, raw materials and product loaded and unloaded to avoid contamination and damage (e.g. using appropriate equipment, a good seal between the carrier and establishment, appropriate area)?			
Is all product to be shipped neatly stacked, securely wrapped and not placed directly on the trailer floor?			
Are raw materials, ingredients, packaging and finished product stored off the floor and away from walls?			
Are 'first in, first out' stock rotations followed?			
Are expiry dates monitored upon receipt and during storage to ensure products are used prior to expiry date?			
Are raw materials, ingredients, packaging and finished product stored at the correct temperature and is the temperature monitored?			
Are equipment and conveyances stored to avoid contamination?			
Are non-food chemicals transported, received and stored separately? Are they stored in a clean, correctly labeled container in a well-ventilated area with restricted access?			

PURCHASING/RECEIVING/SHIPPING, STORAGE & TRANSPORTATION CHECKLIST

	YES	NO	N/A
PRIMARY PRODUCERS			
Is produce transported in a covered vehicle from the field?			
Are agricultural chemicals stored separately from seeds, transplants, row covers, harvested and market-ready product and packaging?			
Is production site equipment stored separately from packaging, product and harvest containers?			
STORAGE FACILITIES			
Are there properly trained personnel for handling repack product?			
Are repack materials records properly maintained?			
Are holding procedures for returned or suspect product/material documented and implemented?			
Are all held items properly identified and adequately segregated?			

PREREQUISITE PROGRAMS

EQUIPMENT

DESIGN AND INSTALLATION

Equipment must be constructed and maintained properly so it does not become a risk to the product. In many cases, product directly contacts equipment so it can become a significant risk to your process if not controlled. Some things to keep in mind for equipment design:

- Smooth, durable, non-corrosive, non-absorbent, non-toxic, impervious, cleanable and compatible with your product type
- Made of material not affected by food products
- No rust, lead or exposed wood
- Constructed and installed so that all areas are reachable for cleaning, sanitizing, inspection and maintenance
- No crevices, cracks, pits, angles or ledges where food can get trapped and build up
- If conveyors are used, ensure there is no fraying material or missing links (Note: do not use piano hinges)
- No open ends and table legs should be sealed
- Seams are smooth and continuous and no 'bubble gum' or spot welding
- Proper drainage and ventilation

Any new equipment should be assessed prior to purchasing to ensure these requirements are met. Equipment should be assessed by multiple personnel with different expertise including but not limited to sanitation, maintenance and quality and food safety. It should also be verified that the equipment is functioning as intended by the manufacturer.

MAINTENANCE AND CALIBRATION

Once equipment is installed, it needs to be put on a preventive maintenance schedule as per manufacturer's recommendations. The preventive maintenance schedule is part of the preventive maintenance program, which contains a list of equipment that may impact food safety. The frequency and procedures to perform for each preventive maintenance task must be documented. When breakdowns occur maintenance work must be controlled to ensure any product risks are minimized. Affected product must be assessed and if compromised it must be disposed of or reworked if possible. If the breakdown is going to be lengthy, product must be controlled properly (i.e. placed back into cooler). Breakdowns should be documented so that preventive maintenance for that equipment can be adjusted.

Equipment that requires regular maintenance and calibration are those used to prevent, eliminate or reduce the likelihood of identified hazards, those that come into contact with the food product and those located above exposed food product. The maintenance and calibration of equipment should be documented to include the calibration method, procedure, frequency, schedule, records with results and corrective actions.

EQUIPMENT
CHECKLIST

EQUIPMENT CHECKLIST			
	YES	NO	N/A
Is all equipment constructed, designed and installed to allow ease of inspection, cleaning and maintenance?			
Is all equipment smooth, durable, non-corrosive, non-absorbent, non-toxic, impervious, cleanable and compatible with your product type?			
Is equipment free of crevices, angles or ledges (i.e. dead spots) where food can get trapped and build up?			
Is equipment fee of rust, lead or exposed wood?			
Are there any open ends or table legs that should be sealed?			
Are seams smooth and continuous with no 'bubble gum' or spot welding?			
Is all equipment assessed for proper requirements before purchasing?			
Is all equipment verified that it is functioning as intended before use?			
Is all equipment on the preventive maintenance schedule and regularly maintained and calibrated?			

PREREQUISITE PROGRAMS

PERSONNEL

TRAINING

Employees must be properly trained on food hazards, food hygiene, clean/sanitary conditions and general hygienic practices. Employees must also complete technical training such as how to properly control equipment on the production lines. Training is ongoing and employees must be evaluated to verify the effectiveness of the training. Training must also be documented. It is crucial that these rules apply to everyone who enters your facility: workers, management, visitors and contractors.

BASIC PERSONNEL HYGIENE

A few basic hygiene rules for safe food production include:

- Showering/bathing daily and wearing clean clothes/ smocks
- Clean, short fingernails (i.e. no fingernail polish or artificial nails)
- No jewelry in production areas (medical jewelry may be worn and some places allow wedding bands)
- No smoking, chewing gum, eating, drinking or spitting in the production and field areas
- Wear hair and beard nets and suitable clothes/gloves/ footwear
- No personal items in the production area
- No loose objects in the production area (e.g. pens, paper clips, pins, buttons, etc.)

HAND WASHING

Hand washing is the single most important thing that people can do to prevent contamination of food. Employees need to know when and also how to wash their hands. Hands need to be washed at the following times:

- At the start of the shift
- After breaks
- After smoking, eating or drinking
- Each time the employee enters the production area
- After handling anything dirty and going back to handle product (i.e. picking something up off the floor, tools, garbage, pallets, etc.)
- After using the washroom
- After coughing or sneezing
- After touching their face or adjusting hair net/beard net

Proper hand washing procedure can be found under the Quality and Food Safety tab of the Perennia website **www.perennia.ca**.

If your hand wash station is not hands free please make sure to get the paper towel ready to turn off the taps before you begin.

"Hand washing is the single most important means of preventing the spread of infection"

– CENTRE OF DISEASE CONTROL

Hands should be scrubbed for 20 seconds or the time it takes to sing *"Happy Birthday"* to yourself!

EMPLOYEE ILLNESS AND INJURY

Employees must cover any cuts or wounds with a secure, waterproof covering that can be easily detected if it were to come off (i.e. metal detectable or bright colour). If an employee is injured on the job, ensure that any product that came in contact with blood or bodily fluids is disposed of and that the area is cleaned and sanitized thoroughly before production resumes. These incidents should be documented. Employees displaying any symptoms of an infectious disease or illness should refrain from coming to work and only return 48 hours after their last symptom as their disease could be transmitted to others through the product. If you are unsure if an employee's illness is a risk to your product or employees you should contact your local Public Health Office. They can advise you and even provide education sessions to your company and employees. Employees are expected and should be trained to sneeze and cough into their elbow or turn their head into their shoulder to avoid contaminating the product and/or equipment.

PERSONNEL PROCESSING PRACTICES

In addition to personal hygiene practices, personnel processing or good manufacturing practices need to be in place for all food production facilities. This would include such things as having facility access through the main entrance and all additional doors locked with restricted access. Employees must be trained in proper traffic flow and product flow around the facility in order to prevent cross-contamination. There must procedures in place for any visitors or contractors to follow to avoid bringing contamination into the facility. Food contact and floor contact items must be kept separate. Hand washing sinks should not be used to clean food equipment and vice versa, equipment sinks should not be used to empty mop buckets or have floor contact items cleaned in them. Doors must be kept closed at all times, including cooler and freezer doors. Waste bins must be kept clean and in good condition and emptied whenever full. Employees must be properly trained on how to manage incidents such as glass breakage, product that falls on the ground or is exposed to condensation or vomiting/bodily fluid incidents. Product spills must be cleaned up regularly to prevent contamination and/or infestation. Product packaging should only be used for the product, not for things such as equipment parts, tools or garbage.

PERSONNEL
CHECKLIST

PERSONNEL CHECKLIST			
	YES	NO	N/A
Have hygiene and good manufacturing practices been documented for the facility/farm?			
Are employees trained on the facilities hygiene practices, prior to starting employment and at least annually?			
Are employees wearing clean protective clothing, hair coverings, gloves and footwear?			
Are employees following proper hygiene practices (e.g. no smoking, eating, drinking, spitting, wearing jewelry or having personal items in production area)?			
Are employees handling food properly to avoid cross-contamination (e.g. correct use of utensils and equipment)?			
Do employees have proper hand hygiene (e.g. clean, short fingernails; cuts or wounds covered with metal detectable or bright coloured coverings)?			
Are employees washing their hands frequently and at the appropriate times?			

PERSONNEL CHECKLIST			
	YES	NO	N/A
Are employees using the correct technique to wash their hands?			
Are employees using the proper supplies to wash their hands?			
Are employees in good health with no signs or symptoms of any illness/disease?			
Are employees trained on how to prevent cross-contamination (e.g. procedures for glass breakage, product that falls on the floor or is exposed to condensation, visitors and contractors during production, and vomit/bodily fluids protocol)?			
Are employees trained on and following good manufacturing practices (e.g. proper traffic flow, restricted access, etc.)?			
Are food contact and floor contact items kept separate?			
Is product packaging/harvest bins being used for their intended purpose?			

PREREQUISITE PROGRAMS

SANITATION

KEEPING YOUR FACILITY AND EQUIPMENT CLEAN

There are basically two types of surfaces that need to be kept clean; food contact and non-food contact surfaces. Food contact surfaces are surfaces that are in direct contact with food, food packaging or other food contact items such as harvesters, product belts, containers, utensils, rollers and other equipment. Surfaces above food contact areas are also considered to be food contact surfaces. Non-food contact surfaces are surfaces that are not or should not be in direct contact with food or food materials e.g. floors, equipment legs, mop buckets, brooms, walls.

The sanitation program should include: documented procedures on how the cleaning is to be carried out for all areas and equipment; frequencies of cleaning activities; housekeeping and sanitation procedures required during operations; a means of conducting a pre-operational inspection prior to start of production, harvesting or packing; corrective actions to be taken for non-compliant situations observed; and finally records that are to be kept.

Chemicals for cleaning and sanitizing food contact surfaces must be suitable and not contaminate the food product. Cleaning and sanitizing chemicals for food and non-food contact surfaces must be differentiated and applied using the manufacturer's instructions (e.g. concentration, contact time, water temperature). Ensure all food or packaging material is protected before using any cleaning and sanitizing chemicals.

A master sanitation schedule should be developed and include all items, including walls, ceilings/overheads and drains, and the frequency of cleaning. Cleaning may be daily or weekly, monthly or less frequent depending on use and debris. The master sanitation schedule helps to schedule and track when cleaning is done and should be in place to ensure areas and equipment do not get missed. Similar to a preventive maintenance schedule, this can be as easy as using an electronic calendar reminder or documented on a spreadsheet. Records must be kept of all cleaning activities.

WHY DO YOU NEED TO CLEAN?

Every day as food products are processed, equipment and surfaces become dirty. If items are not cleaned it will cause:

- bacteria growth causing food spoilage and consumer illness, and affect product quality i.e. taste, appearance or reduce shelf life
- contamination of the next day's production
- insects and rodents to be attracted to your facility

CLEANING STEPS

After production is done for the day, cleaning should be done as follows:

1. **Manually** remove large particles
2. **Pre-rinse** with water to remove large amounts of food particles/soil
3. **Wash** with detergent and mechanical action
4. **Post-rinse** with water to remove detergent and loosened food particles/soil
5. **Inspect**
6. **Sanitize** to kill any remaining microorganisms
7. **Verify** that cleaning was effective through visual inspection, ATP and micro swabs, etc.

SPECIAL CONSIDERATIONS FOR PRIMARY PRODUCERS

- Pre-season and post-season cleaning must occur on all equipment.

SPECIAL CONSIDERATIONS FOR STORAGE FACILITIES

- Equipment used in receiving and shipping (e.g. forklifts) shall be properly maintained and cleaned as per a set schedule that is followed and documented.

SANITATION
CHECKLIST

SANITATION CHECKLIST			
	YES	NO	N/A
Are sanitation procedures documented?			
Is the cleaning frequency adequately keeping the facility and equipment clean?			
Are employees trained on how to properly clean both food and non-food contact surfaces?			
Are employees cleaning at the appropriate frequency?			
Are employees using the cleaning and sanitizing chemicals as per the manufacturer's instructions, are they appropriate for a food facility?			
Is Personal Protective Equipment (PPE) provided and used?			
Are pre-operational inspections being performed and documented?			
Are sanitation activities being documented and corrective action taken when deviations occur?			
PRIMARY PRODUCERS			
Pre-season and post-season cleaning occurring on all equipment?			
STORAGE FACILITIES			
Is equipment used in receiving and shipping (e.g. forklifts) properly maintained and cleaned?			

PREREQUISITE PROGRAMS

PEST CONTROL

WHY DO YOU NEED A PEST CONTROL PROGRAM?

Pests cause contamination of food products, raw materials, packaging, etc. with their droppings and urine, and carry disease. They also can cause physical damage by chewing/gnawing on food and packaging.

COMMON PESTS IN FOOD INDUSTRY

- flies, moths, wasps
- rodents (mice, rats, squirrels, groundhogs)
- insects (beetles, earwigs, cockroaches)
- birds
- other animals (pets and wildlife)

MAIN GOALS OF A PEST CONTROL PROGRAM

1. To prevent pests from getting into the facility
2. To prevent conditions that will allow them to live in the facility if they do get in

Most food production facilities contract pest control to a licensed pest control operator. They can provide the best advice on placement, type and number of pest control devices. Pest control can be carried out internally provided that the person responsible has knowledge of what is required and holds a current and appropriate pesticide applicator's license.

TIPS TO PREVENT PEST PROBLEMS

Pests need three things to live: food, water and harbourage. If you remove the food (through a good sanitation program) and harbourage points, they will not be able to infest your facility.

EXTERIOR BUILDING AND PROPERTY

- Do not store materials directly on the ground
- Ensure garbage is well sealed and removed regularly
- Eliminate vegetation and objects that provide food or harbourage for pests

INTERIOR FACILITY

- Seal and keep clean all cracks in floors, wall and ceilings. Mice can enter through a hole as small as a dime or as big as their head
- Keep floor drains clean and routinely inspect cover plates and catch basins
- Build doors and windows to prevent pests from entering

STORAGE AREAS

- Store products away from walls and off the floor (on a pallet and at least 8 inches from the wall is recommended)
- Store all rejected, damaged and infested product that might attract pests away from raw materials and finished products, and dispose of it as soon as possible

TYPES OF TRAPS

- Bait Stations – To be used outside only by licenced pesticide applicators.
- Mechanical – Also called "tin cats", typically with a glue board installed. Snap traps are not ideal, if they are used they must not be baited with poison or food.
- Light or Pheromone – Insects are attracted to the light or pheromone and get trapped on glue pads inside the trap (glue boards must be present). Bug zappers and fly sticky tape must not be used in a facility.
- Trap types and locations are to be included on a facility map, with a corresponding identifier on the wall and on the trap so that both the pest control provider and the operator know the number and location of traps. This helps if they accidentally get moved. It is recommended that pest control be placed on either side of the entries into the facility (bait stations outside, tin cats inside). If using fly lights, they must not be placed over equipment, product or packaging material.

SPECIAL CONSIDERATIONS FOR PRIMARY PRODUCERS

- Wildlife is a concern in fields and can be hard to control. Possible wildlife control includes fencing and bird deterrents such as netting or bird scarers.
- Fields with fruit and vegetables need to be surveyed prior to harvest. Harvesters need to avoid harvesting in areas with bird and animal droppings.

SPECIAL CONSIDERATIONS FOR STORAGE

- Interior pest control devices shall be labeled with wall signage indicating location.

PEST CONTROL
CHECKLIST

PEST CONTROL CHECKLIST			
	YES	NO	N/A
If outside pest control is in place, is the person properly licenced, insured, trained and providing well documented monthly inspection reports, including bait usage?			
Are the appropriate means of pest control implemented properly and identified on a facility map, the trap and the wall?			
Are controls (e.g. traps, lights, bait stations) regularly monitored?			
Are storage areas kept clean and with all items kept off the floor and away from the wall?			
Is there evidence of pests (e.g. droppings, fur, insects [dead or alive], rodents, birds, etc.)?			
If there are catches documented, are corrective actions completed to correct the issue? Is pest control monitoring increased?			
Are pets not permitted in the facility and storages?			
PRIMARY PRODUCERS			
Are fields surveyed prior to harvest for bird and animal droppings?			
Are wildlife controls in place?			
Are pets kept out of the fields?			

PREREQUISITE PROGRAMS

RECALL & TRACEABILITY

RECALLS – ARE YOU PREPARED?

By CFIA definition, a recall is when a product is removed from sale or a correction is issued in regard to a product on the market. The issue could pose a risk to health or could be that the product is non-compliant with CFIA legislation.

There are two types of recalls and three levels of recalls.

Voluntary Recall – a recall that is initiated and carried out by the recalling firm without a ministerial order

Mandatory Recall – a recall as per Section 19 of the Canadian Food Inspection Agency Act

CLASS I RECALL	A situation in which there is a reasonable probability that the use of, or exposure to, a non-compliant product will have serious adverse health consequences, possibly even fatal.	**A PUBLIC ALERT IS ISSUED**
CLASS II RECALL	A situation in which the use of or exposure to a non-compliant product may have temporary adverse health consequences or where the probability of serious adverse health consequences is remote.	**A PUBLIC ALERT MAY BE ISSUED**
CLASS III RECALL	A situation in which the use of or exposure to a non-compliant product is not likely to have adverse health consequences.	**A PUBLIC ALERT IS NOT USUALLY ISSUED**

Other types of product removal include:

Product Withdrawal – a firm's removal from further sale or use, or correction of a marketed product that does not violate legislation administered by the CFIA. This does not constitute a product recall.

Stock Recovery – a firm's removal or correction of a violated product that has not been marketed or that has not left the direct control of the firm. It is not considered to be a recall.

Regardless of the size or number of products produced, every company/farm needs to have a recall plan and be prepared to use it.

CFIA has outlined steps to conducting a recall.

1. Assemble a recall management team
2. Notify CFIA
3. Identify all products to be recalled
4. Detain and segregate products to be recalled
5. Prepare a press release (dependent on recall class level)
6. Prepare the distribution list (where the product went)
7. Prepare and distribute the notice of recall
8. Verify the effectiveness of the recall (i.e. how much of the total amount of the recalled product produced was recovered)
9. Control the recalled product (i.e. quarantine)
10. Decide what to do with the returned product (e.g. rework or destroy)
11. Identify and correct the cause of the recall
12. Methods to assess the effectiveness of the establishments recall procedure (i.e. procedures for testing the recall plan such as a mock recall procedure)

PRODUCT TRACEABILITY - YOU HAVE A RECALL PLAN, BUT CAN YOU REALLY FIND YOUR PRODUCT?

Product traceability isn't only about your own finished product. The components that are used to produce or package the product must be able to be traced as well.

Product traceability will allow a company to limit the scope of the recall and quickly and accurately remove affected products from the market. Your company must be able to trace raw ingredients, rework, packaging materials and finished products.

Best practice is to link all raw ingredients to the supplier and all raw ingredient lot codes to the finished product lot codes. Do not forget to trace reworked products or product samples that were sent for sales, testing or taken for staff or personal use. Code finished products by lot and record the amount of each lot of each finished product produced. Include all brand names and sizes.

DISTRIBUTION RECORDS

Distribution records will be helpful in determining how much of each product went where, allowing quick and accurate recall of the product. Distribution records should be product and lot code specific and include the following:

- Name and address of the account
- Type of account (e.g., manufacturer, distributor, retailer)
- Who to contact at the account and their contact information
- Product name and lot code they received
- Amount of product shipped to that account

PRACTICE, PRACTICE, PRACTICE

Testing the recall plan is just as important as having one. Since recalls can happen to anyone, at any time in any industry, you have to be prepared at all times. A practice or mock recall is a means to test the recall plan and see that it continues to be effective in tracing all materials coming in and all products going out within a reasonable amount of time, along with the recall process. It's also a good time to test the communication plan to see if all the contact lists are up to date.

Mock recalls are typically completed at least once per year; customers may require them to be done twice per year. Your finished product must be traceable to the customer (this is called one up) and must also show traceability through to the ingredient/primary input supplier (this is called one back). To do this, the date of receipt of raw materials, food contact packaging, materials or other processing inputs will need to be recorded.

Once the mock recall is completed and recorded, take the time to determine what worked and what didn't work. The gaps identified are critical in strengthening the traceability program and recall plan. Make corrections as soon as possible to be ready for a potential recall. These documents must be kept for two years.

SFCR REQUIREMENTS

Must prepare and keep documents (records) that:

Identify your food

- Common name
- Lot codes or other identifier (including how to interpret the lot codes)

Trace the food you provide to someone else, one step forward

- Name and address of the person
- Date you provided it

Trace the food (ingredients), another person provided you, one step back

- Name of the food
- Name and address of the person who provided you with the food
- Date on which it was provided to you

Labelling Requirements for Traceability:

Product labels must include

- Common name
- Lot code or other unique identifier
- Name and principal place of business of the person by or for whom the food was manufactured

RECALL AND TRACEABILITY

CHECKLIST

RECALL AND TRACEABILITY CHECKLIST			
	YES	NO	N/A
Is there a documented recall plan in place, with step by step instructions of what to do in a recall situation?			
Is there a cross-functional recall team in place whose members understand their designated role and responsibilities?			
Is there complete and accurate recall team, CFIA and customer contact information?			
Are your products and all components used to produce or package your products traceable (lot-code specific)?			
Do you have your method of product traceability as well as your components (ingredients, packaging) documented? Have you tested it?			
Are the harvest/production and distribution records complete and accurate?			
Are measures in place to assess the effectiveness of your recall procedure? Has a mock recall been attempted?			
Are your product labels compliant with SFCR requirements?			
Are lot codes established, are they permanent, unable to be altered, smudged or removed easily?			
Has reworked product been accounted for in inventory?			
Have staff sales, personal use, sales samples, product sampled and sent for testing/analysis been accounted for in inventory?			

PREREQUISITE PROGRAMS

ALLERGENS AND FOOD ADDITIVES

ALLERGENS

Allergen management is a key part of preventing mistakes that can affect how your company/products are viewed. If a mistake is made the following can be affected:

- Consumer perceptions, attitudes and trust due to adverse media coverage
- Product, brand and franchise image
- Regulatory attitudes and trust

SO WHAT EXACTLY IS AN ALLERGEN?

An allergen is a specific protein in a food or food particle, most often eaten or inhaled, that causes an abnormal response by the immune system (antibodies are released such as immunoglobulin E [IgE] antibodies and chemicals such as histamine) in the body to the food and causes an allergic reaction. Allergic reactions can cause serious illness and death and as such, allergens are considered chemical hazards.

MOST COMMON FOOD ALLERGIES AND RELATED DISORDERS (2018)

The Canadian Food Inspection Agency has identified the most common food allergies and related sensitivities in Canada:

Eggs, milk, mustard, peanuts, seafood (fish, crustaceans, shellfish), sesame, soy, sulphites (greater than 10 ppm), gluten, tree nuts (almonds, Brazil nuts, cashews, hazelnuts, macadamia nuts, pecans, pine nuts, pistachio nuts, walnuts), wheat and triticale

Note: Priority allergens differ by country. Be aware of the allergens and labelling requirements for any countries you are exporting to. For example, celery is considered an allergen in Europe but not in North America.

Potential sources of food allergens are:

- Unknown ingredients in raw material
- Mis-formulation and rework
- Improper clean-up/storage

- Cross-contamination by dust or piece of the allergen on equipment, utensils, bulk carriers and personnel
- Mislabelling (incorrect or old label being used, no allergen declaration on lubricants)

To control potential sources of food allergens:

- Good personal hygiene and personnel processing practices (i.e. wash hands, wear clean attire)
- Separate production rooms
- Separate production times (i.e. process non-allergen products first or on separate days)
- Separate lines/equipment/utensils
- Designated employees for different lines
- Pre-operational cleanup and inspection if allergen product produced mid-shift
- Check all incoming ingredients and labels
- Separate storage and shipping of allergenic ingredients and products
- Dispose of obsolete materials (e.g. labels, formula documents, ingredients, etc.) to ensure they're not mistakenly used
- Employee training
- Proper labelling

FOOD ADDITIVES, PROCESSING AIDS AND ADDED NUTRIENTS

Health Canada defines a food additive as any chemical substance that is added to food during preparation or storage and either becomes a part of the food or affects its characteristics for the purpose of achieving a particular technical effect. If food additives are used, ensure that the additive is on Health Canada's list of permitted food additives and cleared for the commodity. Information regarding permitted food additives can be found on Health Canada's website.

Processing aids may be used as long as they do not result in an unsafe food product. It is the responsibility of the facility to prove it will not render a product unsafe. Vitamins, minerals and amino acids can also be added if they are listed in Part D of the Food and Drug Regulations (FDR).

Operations must have controls in place to ensure that food additives, vitamins, minerals and amino acids used are approved by the FDR and are added in levels approved for use by the FDR. Operations must be able to verify the level of the substance in the final product and develop documents for each different product describing the following:

- The name of substance
- Level at which is it added
- Processing step at which it is added
- Procedures followed to add the substance to food

ALLERGENS AND FOOD ADDITIVE

CHECKLIST

ALLERGENS AND FOOD ADDITIVE CHECKLIST			
	YES	NO	N/A
Are incoming materials and their labels being inspected?			
Are the proper labels that reflect the current formula of your product being used?			
Are measures to avoid cross-contamination between allergen and non-allergen products documented and being followed (e.g. separate production rooms, production times, line/ equipment/utensils, storage, etc.)?			
Are obsolete materials being discarded?			
Are employees properly trained on allergen management?			
If your facility uses food additives, are they approved by Health Canada?			
If your facility uses a processing aid, can you prove that your product is safe?			
If your facility uses vitamins, minerals or amino acids, are they approved and found in Part D of the Food and Drug Regulations?			

CREATING YOUR PRODUCT SPECIFIC HACCP PLAN

HACCP BASICS

The acronym HACCP stands for Hazard Analysis Critical Control Point.

HACCP is a systematic, scientific approach to identifying and controlling food safety hazards during the production/manufacture of food and related products.

The intent of documenting a HACCP plan is to take a proactive approach to identifying and controlling the food safety hazards that are associated with the production of products that are not already controlled by prerequisite programs.

MANAGEMENT COMMITMENT

In order for a HACCP based food safety system to be effectively implemented you need support from management/owners. Without their support, it is very difficult to implement positive change. A food safety program is something that changes and grows with your company and must be reviewed regularly in order to keep it current and meaningful. As your facility, procedures, process, employees and products change, so will your program. When a HACCP coordinator regularly reviews their prerequisite program and HACCP plan, it is crucial to communicate with employees and management. This provides an opportunity to educate employees and management and also learn more about the process to ensure they have things properly documented. By asking questions about the process, getting their coworkers input and evaluating the effectiveness of the records and standard operating procedures (SOPs) for those using them, they are positively changing attitudes and behaviours which over time will help shape the company's culture and create awareness.

THE HACCP PLAN

Your HACCP plan will be documented through a hazard analysis process. For each different product/process type at your facility/farm, there needs to be a HACCP plan. Hazards will be identified for incoming materials and ingredients, cross-contamination points and process steps and appropriate controls for each will be implemented to reduce the risk or eliminate the hazard. Those control measures need to be monitored to ensure they effectively control the hazard. The control measures can include your prerequisite programs or critical control point(s). If one of those control measures fails then corrective actions need to be taken and a corrective action/deviation report documented. The root cause of the incident needs to be determined to prevent reoccurrence.

There are 12 steps when implementing a HACCP Plan. These steps can be divided into the 5 preliminary steps and the 7 basic principles of HACCP.

5 Preliminary Steps

1. Assemble HACCP team
2. Describe product
3. Identify its intended use
4. Construct a process flow diagram and a plant schematic
5. On-site verification of #4 above

7 Basic Principles of HACCP

6. List all potential hazards associated with each step, conduct a hazard analysis and consider controls
7. Apply HACCP decision tree to determine critical control point(s) (CCPs)
8. Establish critical limits
9. Establish monitoring procedures
10. Establish deviation procedures
11. Establish verification procedures
12. Establish record keeping

The first step when implementing a HACCP plan is deciding who should be on the HACCP team for each HACCP Plan. Secondly, determine how many HACCP Plans are needed. In other words, how many different products/processes? A dairy that produces liquid milk, ice cream and cheese may have three HACCP plans.

A **HACCP team** can consist of senior management and production employees from various disciplines, such as:

- CEO, Owner, Operator
- Quality Assurance, HACCP Coordinator
- Receiver/Shipper
- Production Supervisor/Manager
- Sanitation
- Maintenance
- Purchasing and/or Sales
- Product Development

A smaller company may only have two or three people that fill these roles. Normally the person that deals with product safety and quality will have the proper food safety training and will be the one that leads the HACCP team. A cross-functional team is important because food safety and quality is everyone's responsibility and one person cannot successfully do it on their own.

The rest of the HACCP steps will correspond with forms and are discussed further in detail in the following section.

CREATING YOUR PRODUCT SPECIFIC HACCP PLAN

THE FORMS

A HACCP Plan generally consists of 11 forms that are best completed in the following order:

Form 1: Product Description

Form 2: List of Product Ingredients and Incoming Materials

Form 3: Process Flow Diagram

Form 4: Facility Schematic

Form 5: Biological Hazard Identification*

Form 6: Chemical Hazard Identification*

Form 7: Physical Hazard Identification*

Form 8: Decision Tree - CCP Determination and Other Control Measures*

Form 9: Hazards Not Controlled by the Facility

Form 10: Critical Control Point(s) (CCP)

Form 11: Process Controls (PC)

Forms 5 to 8 can be combined into a Hazard Identification and CCP Determination form.

Each form is in place to help guide the team through the hazard analysis process in order to eliminate or decrease the food safety risk in the products.

Form 1's basic purpose is to record the products produced, their specific requirements and special characteristics that need to be considered when completing a HACCP plan. With regard to the intended use of the product, be very clear in the documentation and on the labels as to the intended final use of the product; for example, keep frozen or cook prior to eating statements. Consumers have suffered from foodborne illnesses as a result of storing ice cream in the refrigerator as opposed to the freezer, which promotes Listeria growth and contamination. Consumers have also become sick by eating raw cookie dough made with contaminated flour or not fully cooking or improperly cooking chicken products.

The purpose of **Form 2** is to help identify all ingredients, processing aids, other inputs and packaging materials used to produce the products that were recorded in Form 1.

Form 3 is documented to show the process steps for the products listed in Form 1. The process flow diagram gives you a snapshot of the process and helps determine what potential hazards could be present at each step in the process.

It is important to include everything (inputs and outputs), including rework, store sales and waste where applicable. Each step in the process will be numbered and a hazard category will be assigned to each (B, C, and/or P). This information will be used in the hazard analysis in form 5-8.

The purpose of **Form 4** is to document the facility and how ingredients, product, rework, allergens, chemicals, personnel, and waste move through it. This form is for all products that are made in the facility. It is important to include all processes in order to identify any cross-contamination points. Examples of cross-contamination are allergens with non-allergens, waste with finished product or raw ingredients, chemicals with product, and people with product. Draw a picture of the facility as if you were looking down onto it, and make sure all equipment and rooms are included and labeled. To show movement of ingredients, product, rework, allergens, chemicals, personnel and waste, use different colors or different types of lines. Where the different lines cross are the potential cross-contamination points. The cross-contamination points identified here will be inputted into form 5-8. Pest control trap numbers (bait stations, tin cats, and fly traps) can be included on this schematic or you can create a separate map in the Pest Control SOP.

Forms 5, 6, 7, and 8 can be combined to make it easier to complete the hazard analysis. This is the form that pulls the information gathered in forms 1-4 together and then looks at the process and hazards in detail. This form(s) asks 5 questions to help guide you through the hazard analysis process. This essentially leads you through a decision tree that helps to determine if the hazards identified are controlled under the currently documented prerequisite program or will need to be controlled as a process control (PC) or a critical control point (CCP). Note that you cannot have a PC without a CCP but you may have a CCP without a PC.

To assist with Hazard Analysis, CFIA has an online tool called the Reference Database for Hazard Identification (RDHI). It can be found on their website, the link is provided below (current as of March 2015). CFIA periodically updates the online tool. However, if you are producing an innovative item it may not be listed in this reference tool.

http://active.inspection.gc.ca/rdhi-bdrid/english/rdhi-bdrid/introe.aspx?i=1

Sometimes hazards are beyond the control of the farm/facility. In those instances **Form 9** comes into play. On this form, you record what the hazard is, what part of the process this affects (before or after receipt) and how the outside source will control it.

If it is determined that critical control points (CCPs) are required to control a hazard then **Form 10** is used to describe the details of the CCP, who will monitor it, when and how it will be monitored, any critical limits that need to be adhered to and what records and standard operating procedures (SOPs) are used. Other details that need to be considered are how to verify that the hazard is being controlled properly and what happens if the critical limit(s) are not met.

The process controls (PC) that were determined through the hazard analysis are recorded on **Form 11**. Much like Form 10, you document the details and refer to the CCP that the process control is linked too.

Generally, it takes most operations 18 months to implement prerequisite programs (75% of operations can do it in 12-14 months and implement a HACCP Plan in 4 to 6 months). Rushing a program often results in incidents that could have been avoided or identified. Verify the system is effective. Is the final product completely safe or was something missed? Keeping track of the HACCP records is critical. Records will demonstrate the application of the HACCP plan. Records should be simple and non-redundant. Feedback from employees on the usability of them will be beneficial as employees will be more likely to fill them out if they are easy to use. Records must be legible and filled out at the actual time the check was performed. They must be signed by the person who monitors the task, and the person who verifies that the record is complete and the task was performed properly. Records must be kept for at least two years or the shelf life of the product plus one year unless otherwise requested.

DOCUMENT CONTROL
CHECKLIST

DOCUMENT CONTROL CHECKLIST

Documentation of your food safety program is essential. Documents are an important tool for training existing and new employees as well as ensuring procedures are followed consistently by all. Documents demonstrate the effective implementation of your Food Safety program and allow for continuous improvement. They are most often a condition of registration, licensing or certification and are evidence of due diligence on your company's behalf. Creating a basic template for documents such as procedures and work instructions will allow you to keep records organized, up-to-date, legible, accurate and readily accessible. Note that it is important to use appropriate languages in your documents. Use the following checklist to ensure the policies, procedures and records contain all requirements.

DOCUMENT CONTROL CHECKLIST	
POLICIES/PROCEDURES	
Header/Top of Page	☐ Company Name ☐ Title of Document ☐ Date Created/Revision Date ☐ Supersedes Date ☐ Author/Approved By
Body of Document	☐ Scope/Purpose ☐ Responsibility (name and/or position) ☐ Frequency ☐ Work Instructions/ Procedure/Policy (i.e. what and how, keep it simple, clear and easy to follow) ☐ Revisions/Changes Highlighted (for easy reference) ☐ Monitoring ☐ Verification ☐ Corrective Action/Deviation ☐ Any Supporting Documents
Bottom of Document	☐ Page Number (e.g. Page 1 of X) ☐ Change Log (can be in a separate document)

DOCUMENT CONTROL CHECKLIST	
RECORDS	
Header/Top of Page	☐ Company Name ☐ Title of Document ☐ Date Created/Revision Date ☐ Supersedes Date ☐ Author/Approved By
Body of Document	☐ Specification/critical limits that need to be followed ☐ Brief outline of procedure (can be a checklist and/ or a brief summary of the task) ☐ Space to record information (keep it simple and record only information will be used) ☐ Corrective Action (a small space for any issues, or corrective actions taken during production) ☐ Monitor's signature/initials and date and time of checks ☐ Verifier's signature/initials and date
Bottom of Document	☐ Page Number (e.g. Page 1 of X)

DOCUMENT CONTROL CHECKLIST	
DOCUMENT MANAGEMENT	
Ensure that policies, procedures and records are:	☐ Kept for one year plus the shelf life of the product or two years (this can be dependent on regulatory or customer requirements) ☐ Secure and readily accessible to authorized personnel only (electronic or hard copy) ☐ Core documents backed up in case of loss due to water, fire, theft, etc. ☐ Controlled so that only authorized personnel make updates/changes ☐ Outdated copies are collected and destroyed ☐ Records are legible and completed in ink and no liquid paper, ditto marks or scratch outs ☐ Records are recorded by the monitor (person doing the work) in real time and initialed and dated by the monitor ☐ Records are viewed in a timely manner (daily, weekly, monthly, etc. dependent on the record) and initialed and dated by the verifier (trained person that did not do the work being recorded)

RESOURCES

Our Quality and Food Safety Team offer a variety of resources on our website at **www.perennia.ca**. We offer coaching, assessments and both online and public training courses covering a variety of topics. Most recently, we have added a resources page, which includes Perennia's publications and fact sheets, recommended resources and videos. If you have any questions, please do not hesitate to contact one of our Quality and Food Safety Team members, we are here to help.

2018/19 EDITION

SAFE 4 MARKET

Visit **http://www.perennia.ca/acceleratorprogram/** to find out how to access funds to correct a technical issue that is preventing your Nova Scotian agri-based product from entering a new market or from achieving market success.

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